

SSAI Advanced Obstetric Anesthesia Training Program 2019-2022

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General anesthesia for emergency cesarean section - Neuromuscular blocking agent

Abstract

Background: Suxamethonium (Sux) has been the 1st choice for relaxation to rapid sequence intubation in general anesthesia for cesarean section (CS) for years, due to its fast onset of action and fast half-life. However, Sux is a depolarizing agent associated with some undesirable side effects and is inadvisable in some conditions (e.g., susceptibility to hyperpyrexia, abnormal cholinesterase genotypes, susceptibility to hyperkalemia). Studies in mixed populations have shown that Rocuronium (Roc) has just as fast an onset of action as Sux and considerations about the longer half-life of Roc has changed with the reverting drug Sugammadex. In the obstetric setting it is also necessary to consider the effect on the neonate; studies have shown that there is a small placental transfer of Roc. The transfer of Sux is virtually none. The aim of this guideline is to determine if Roc and Sux are comparable in airway management of the obstetric population and in the effect on the neonate.

Method: The PICO method was used to formulate the clinical question and our guideline is made based on the GRADE approach, likewise, are our articles reviewed- and the quality of evidence rated - based on the GRADE approach.

Results:

We found 15 relevant articles in total and chose the 6 articles with the highest quality of evidence, one article per group member. One Systematic review, 4 RCTs and 1 prospective multicenter study. The overall GRADE quality of the evidence was Low to Moderate. The outcome intubation conditions favored Sux RR 0,86 vs. Roc 0,9. The outcome APGAR score < 7 at 1 min. and 5 min. was not different between the Roc and Sux group in 2 underpowered RCTs, but in the third well powered and largest study the occurrence of APGAR score < 7 was significantly lower in the sux group 10,3% vs. Roc group 17,5%, $p=0,023$. There was no difference at the APGAR at 5 min. The outcome failed intubation, had no statistical analyses in the studies, but were reported in all studies as not occurring, hence no difference between Roc and Sux.

Recommendations and conclusion: Based on the included studies Rocuronium 1 mg/kg and Suxamethonium 1 mg/kg is comparable and safe choices of muscle relaxants in terms of obstetric airway management and in the effect on the neonate at APGAR score at 5 min. for general anesthesia for emergency CS. Roc can cross the placenta to a lesser degree, as opposed to Sux, and maybe in some cases affect the APGAR score at 1 min.